General Background Information on the Iron and Steel Industry

The ferrous metallurgical industry, in addition to the production of iron and steel, includes the mining and preparation of raw and alloying materials consumed in such production. The principal raw materials of the industry are iron ore, manganese ore, metallurgical coke, and limestone. The ores and concentrates of chromium, cobalt, molybdenum, nickel, tungsten, columbium (niobium), titanium, and vanadium constitute the principal alloying materials. The iron and steel industry processes these materials into finished rolled, cast, and forged shapes for consumption by the manufacturing, construction, and other industries.

The principal components of the industry are as follows:

Product	Type of Facility
Ores	Open cast (open pit, open cut), underground (shaft) mines.
Concentrates	Crushing, washing, beneficiating (enriching) plants, agglomerating, sintering and pelletizing facilities.
Ferroalloys	Smelters, electric and blast furnaces, refineries.
Metallurgical coke	By-product and beehive coke ovens.
Pig iron	Blast furnaces, rotary kilns (Krupp-Renn process).
Crude steel	Open hearth (Siemens-Martin) furnaces, converters, (Bessemer, Thomas, oxygen), electric furnaces.
Rolled steel	Rolling mills -- blooming and slabbing, plate, bar, rod, sheet, strip, pipe, tube, rail, structural, etc.
Forgings	Presses, hammers, etc.
Castings	Foundries.

Pig iron is produced in two major categories: conversion pig iron for consumption in the production of steel and foundry pig iron, for use in the production of iron castings.

Crude and finished steel are produced in multitudinous variations of carbon (mild, Siemens-Martin, Thomas, etc.) and alloy grades. Alloy steels rarely account for more than 8 to 10 percent of total crude steel tonnage but their higher value and strategic significance add to their importance.

The Ferrous Metallurgical Industry of Hungary (October 1958)

The ferrous metallurgical industry of Hungary lacks an adequate domestic supply of raw materials and is in need of modern processing equipment. Because of low labor productivity and indifferent technology, the industry operates inefficiently and at high cost, requiring heavy subsidization. In spite of these deficiencies, the production of crude steel in 1957 of 1.375 million tons, 8.5 percent of that of the European Satellites, supplied the Hungarian economy with approximately 90% of the steel products consumed by the machine building, manufacturing, and other industries which are substantial exporters as well as the principal means of domestic industrialization.

Of the raw materials needed for the making of iron and steel, domestic production is able to supply only limestone and manganese in sufficient quantities. Deposits of low grade iron ore are being depleted rapidly, and approximately 80 percent of the iron ore consumed is imported, principally from the USSR. Reserves of coking coal are limited and are not suitable for the production of high grade metallurgical coke. More than 90 percent of requirements of metallurgical coke are imported from Poland and Czechoslovakia. Production of pig iron is supplemented by shipments from the USSR and Communist China. All alloying materials are imported, almost entirely from the Sino-Soviet Bloc.

Production of rolled steel is augmented by imports of plate, sheet and tubing, largely from Austria and West Germany. Imports of sheet and plate should be eliminated by 1963, if the hot and cold sheet mills are completed on schedule at the Danube Metallurgical Combine in Sztalinvaros.

Questions on the Ferrous Metallurgical Industry of Hungary

The following questions are grouped in descending order of priority. All relate to IPC basic requirements and targets.

1. Plans for Development

a. Background

Specific information on the Three Year Plan, 1958-1960, and on long range plans for the ferrous metallurgical industry of Hungary is lacking. The information available indicates that investments in heavy industry during the Three Year Plan are to be 90.3 percent of total industrial investments as compared to 92.2 percent originally allocated for the Five Year Plan (1956-60). The preliminary allocation of investments, however, indicates a marked shift to the electric power industry at the expense of the engineering and metallurgical industries. Investments in the metallurgical industry are scheduled to drop from 20.4 percent to 7.8 percent of total industrial investments and are to be used principally for the continuation of the construction of the Danube Metallurgical Combine, Sztalinvaros, and for the modernization of the Lenin Iron and Steel Plant, Diosgyor. Production goals are to be cut back from the original 1960 goal of 2.24 million tons of crude steel to approximately a 30 percent increase over 1957 production, or about 1.8 million tons of crude steel. Authoritative information on development plans of the metallurgical industry of Hungary is essential to an assessment of the future role of the industry in the national economy.

b. Questions

For the Three Year Plan, 1958-1960, and for the yearly plans as available:

1. Production goals for all raw materials, iron ore, manganese, metallurgical coke, and iron and steel products.

2. Investments in the various components of the industry, such as iron ore and manganese mining, metallurgical coke, and individual iron and steel plants.

3. Rate of growth.

4. Planned coefficients of utilization of blast furnaces and open hearth furnaces for the industry as a whole.

5. Introduction of new technological processes, such as the installation of high top pressure and the use of controlled moisture in the blast furnaces, the use of oxygen for fuel enrichment and for carbon reduction in open hearth and electric furnaces, and the installation of the oxygen converter process of making steel.

6. For long range plans, to 1975, the above information as it may be available.

7. Indications, other than the lowered investment allocation, of a de-emphasis of the expansion of the Hungarian iron and steel industry as a result of CEMA planning or for other reasons.

2. Production and Distribution of Iron and Steel

a. Background

Although reports are received occasionally on the amounts produced and the consumption of the individual types of steel in Hungary, annual reports on the product mix and the distribution of steel products, including castings and forgings, are not available. Information of this nature may throw some light on the capability of the industry to support the production of military hard goods.

b. Questions

1. Annual production of semifinished and finished steel, by type of product, for the industry as a whole.

2. Annual production of alloy steel, by grade, shape, and class.

3. Annual reports of the distribution of semifinished and finished steel, by type of product, to consumer group, including ordnance and other military items, and to export.

3. Costs and Prices

a. Background

The ferrous metallurgical industry of Hungary operates inefficiently, at a high cost and is subsidized heavily by the government. Authoritative reports on costs and prices, to permit an analysis of the industry, are not available.

b. Questions

1. The average cost of producing one ton of iron ore, manganese ore, metallurgical coke, pig iron, crude steel, and the various types of rolled steel.

2. An annual breakdown of the total costs of operating the industry into materials, services, wages and employment benefits, amortization, and other costs.

3. The current price list of iron and steel products and the prices per ton paid for imported iron and steel products.

4. The total number of employees and the wage bill of the ferrous metallurgical industry annually, broken down into administrative (above the enterprise level), engineering and technical personnel, administrative and office personnel (at the enterprise level), blue collar workers, and others (including apprentices, servicing attendants and watchmen).

5. The annual cost to the government of subsidizing the industry.